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ADDITIONS TO THE FLORA OF KANSAS.

BY B. B. SMYTH, TOPEKA.

Much in a botanical line has been done (by others) in the past two years. The writer has done some original work, though not so much as usual. Opportunity has been given for an additional trip to the southwest, and much uncertainty verified. A trip has also been taken through the counties from Russell to Wallace, with side trips into Thomas and Sheridan counties; and several weeks spent in collecting in those counties. Professor Hitchcock has taken several trips into southeastern and southern Kansas, and has studied pretty thoroughly those regions. He has kindly given me a part of the results of his labors. Mr. Bartholomew has, as usual, worked assiduously in his line of microscopic fungi, and has sent me the results of his labors. Several new species are here described for the first time. The writer has also determined several species that have lain in his herbarium for several years, the results of former trips to the northwest and southwest. More remains to be told.

A new catalogue of the flora of the state is greatly needed. So many of the plants of the state have been reported under erroneous names, and under various names, and nomenclature is in such a confused and chaotic condition, that it is difficult to tell, when one sees a new name reported from Kansas, whether it is a new plant or merely a new name for an old and familiar one. So that no attempt is made this time to say how many species of plants there are now in the state, after adding the present list. The number of species is probably not increased from the number given two years ago, namely: Flowering plants, 1997; cryptogamic plants of all kinds, 1027; total, 3024.

Species marked (H) have been found by Professor Hitchcock; species marked (B) are reported by Mr. Bartholomew.

FLOWERING PLANTS.

POLYPETALOUS EXOGENS.

1. *Ranunculus acris* L. Tall buttercup. Riley and Clay counties. (H)
2. *Ranunculus divaricatus* Schrank. Phillips and Logan counties. In state herbarium.
3. *Ranunculus missouriensis* Greene. Missouri buttercup. McPherson county, in Lake Inman.
4. *Ranunculus pennsylvanicus* L. f. Bristly buttercup. McPherson county. (H)
5. *Ranunculus sceleratus* L. Ditch crowfoot. Wet places near Arkansas river, at Garden City.
6. *Ranunculus septentrionalis* Poir. Marsh buttercup. Wyandotte and Cherokee counties. (H)
7. *Corydalis crystallina* Eng. Spangle-pod. Southeast Kansas. (H)
8. *Corydalis curvisiliqua* Eng. Curve-pod corydalis. Cherokee and Chautauqua counties. (H)
9. *Arabis glabra* Bernh. Tower mustard. Topeka; occasional in suburban streets.
10. *Arabis hirsuta* Scop. Hairy rock-cress. Riley and Clay counties. (H)
11. *Arabis ludoviciana* Meyer. Western rock-cress. Cherokee county. (H)
12. *Camelina microcarpa* Andr. Slender false-flax. In waste places, about barns, etc.; introduced.

13. *Cardamine pennsylvanica* Muhl. Pennsylvania bitter-cress. McPherson county. (H)
14. *Cardamine rotundifolia* Mx. Round-leaved water-cress. Morris and Russell counties; in springs southwest of Council Grove and north of Russell, near Salt creek.
15. *Draba brachycarpa* Nutt. Short-pod draba. Cherokee and Chautauqua counties. (H)
16. *Lepidium campestre* R. Br. Field cress. Occasionally seen in Kansas fields; introduced in grass seeds from the East.
17. *Lesquerella argentea* MacM. Silvery bladder-pod. Logan county.
18. *Lesquerella engelmanni* Wats. Englemann's bladder-pod.
19. *Lesquerella gracilis* Wats. Slender bladder-pod. Western Kansas, on dry prairies.
20. *Sinapis juncea* L. Indian mustard. Northern Kansas; frequent near dwellings in waste places.
21. *Alyssum maritimum* Lam. Sweet alyssum. Topeka; escaped; rare.
22. *Arenaria serpyllifolia* L. Thyme-leaved sand-wort. Occasional in rocky places in central Kansas.
23. *Cerastium compactum* (Robinson). Throughout Kansas; occasional.
24. *Lychnis githago* Scop. Cockle. Shawnee and neighboring counties; occasional in wheat fields.
25. *Paronychia depressa* (Nutt.) Hamilton county. In state herbarium.
26. *Sagina procumbens* L. Decumbent pearlwort. Cherokee and Chautauqua counties. (H)
- *Silene cucubalus* Wibel. Bladder campion. Occasionally seen in meadows in eastern Kansas; introduced from the east. Heretofore listed as *S. inflata*.
27. *Silene divaricata* (Robinson). Apetalous catchfly. Shawnee county; occasional.
28. *Vaccaria vulgaris* Host. Cow-herb. Phillips to Thomas counties.
29. *Sphaeralcea stellata* T. & G. Starry-haired globe-mallow. Southern Kansas.
30. *Oxalis cymosa* Small. Tall sorrel. Eastern Kansas; frequent.
31. *Cassia tora* L. Low senna. Wyandotte county. (H)
32. *Prosopis glandulosa* Torr. Prairie mesquite. Barber and Clark counties.
33. *Astragalus distortus* T. & G. Curved-pod buffalo-pea. Cherokee county. (H)
34. *Astragalus tenellus* Pursh. Loose-flowered buffalo-pea. Western Kansas.
35. *Desmodium bracteosum* DC. Large-bracted tick-trefoil. Eastern Kansas; occasional. (H)
36. *Desmodium hirsuta* (Hook.) Hairy tick-trefoil. Atchison and Wyandotte counties. (H)
37. *Desmodium longifolium* (T. & G.) Long-leaved tick-trefoil. Southeast Kansas; occasional. (H)
38. *Galactia glabella* Mx. Smooth milk-pea. Southeastern Kansas. (H)
39. *Galactia volubilis* Britt. Downy milk-pea. Southeastern Kansas. (H)
40. *Lathyrus pusillus* Nutt. Dwarf pea. Montgomery to Cherokee counties. (H)
41. *Lespedeza leptostachya* Eng. Prairie bush-clover. Shawnee county, etc., on prairies.
42. *Lespedeza repens* Bart. Creeping bush-clover. Coffey county. (H)
43. *Medicago lupulina* L. Blackseed hop-clover. Lyon and other counties of southeastern Kansas.
44. *Medicago sativa* L. Alfalfa. Topeka; in streets; infrequent.

45. *Oxytropis multiceps* Nutt. Tufted loco-pea. Sherman and Cheyenne counties; occasional on rocky prairies.
46. *Petalostemon tenuifolius* Gray. Silky petalostemon. Norton county.
47. *Psoralea linearifolia* T. & G. Narrow-leaved leather-root. Seward county.
48. *Psoralea obtusiloba* T. & G. Short-leaved leather-root. Northwestern Kansas; occasional.
49. *Robinia hispida* L. Rose acacia. Shawnee county; rare; escaped from nurseries.
50. *Trifolium carolinianum* Mx. Carolina clover. Topeka and elsewhere; occasional; introduced.
51. *Vicia cracca* L. Tufted vetch. Clay county. (H)
52. *Vicia sativa* L. Common vetch. Wyandotte county. (H)
53. *Cercocarpus parviflorus* H. & A. Small-leaved cercocarpus.
54. *Crataegus viridis* L. Southern thorn. Southeastern Kansas; frequent. (H)
55. *Potentilla pentandra* Eng. Five-stamened cinquefoil. Riley and Shawnee counties. (H)
56. *Potentilla strigosa* (Pursh.) "Kansas." (Britton & Brown, *Illust. Flo.* II, 214.
57. *Rosa canina* L. Wild brier. Common near old dwellings in eastern counties.
58. *Rosa rubiginosa* L. Sweetbrier. Frequently seen; escaped from cultivation.
60. *Cerasus mahaleb* Mill. Mahaleb cherry. Frequently seen near old nurseries and orchards in eastern Kansas.
61. *Epilobium adenocaulon* Haussk. Northern willow-herb.
62. *Oenothera brachycarpa* Gray. Short-pod evening-primrose.
63. *Oenothera grandis* (Britton). Great-flowered evening-primrose. Barber county.
64. *Oenothera oklahomense* Norton. Oklahoma evening-primrose.
65. *Oenothera spinulosa* T. & G. Spiny-leaved evening-primrose.
66. *Peucedanum villosum* Nutt. Hairy parsley. Rice county.
67. *Sanicula gregaria* Bickn. Clustered snake-root. Shawnee county.

GAMOPETALOUS EXOGENS.

68. *Artemisia kansana* Britton. Kansas artemisia. Southern Kansas. May be a form of *A. frigida*.
69. *Aster acutidens* (Burgess). Sharp-toothed aster. Eastern Kansas; occasional along streams.
70. *Aster bellidiflorus* Willd. Large-panicked aster. Shawnee county and eastward, in moist places.
71. *Aster exilis* Ell. Slender aster. Stafford county, in salt marsh.
72. *Aster missouriensis* Britt. Missouri white-rayed aster. Eastern Kansas, in moist soil.
73. *Aster pilosus* (Porter). Hairy frostweed. Eastern Kansas.
74. *Baccharis neglecta* Britt. Long-leaved pencil tree. Cheyenne county, along streams.
- , *Berlandiera pinnatifida*. Heretofore listed as *Engelmannia pinnatifida* T. & G.
75. *Carduus megacephalus* (Porter). Large-head thistle. Norton county.
76. *Carduus nebraskensis* Britt. Nebraska thistle. Jennings, Decatur county; collected in 1892.
77. *Erigeron beyrichii*. Slender daisy-fleabane. Western Kansas; occasional in dry soils.

78. *Filago nivea* Small. Tufted cotton-rose. Common on dry hills.
79. *Solidago gilvocanescens* (Rydb.) Yellow-haired goldenrod.
80. *Lobelia leptostachys* DC. Spiked lobelia. Shawnee county, on rocky hills.
81. *Lobelia hirtella* (Gray). Hairy lobelia. Jefferson county.
82. *Acerates viridiflora* Eaton. Green-flowered milkweed. Barton and other counties of central Kansas.
83. *Asclepias galioides* HBK. Kansas milkweed. Western Kansas, on prairies; occasional.
- *Physalis heterophylla* Nees. Clammy ground-cherry. Eastern and central Kansas; frequent. Badly affected in some counties by worms. Heretofore called *P. viscosa*.
84. *Physalis lagascae* R. & S. Small-flowered ground-cherry. Southern Kansas.
85. *Physalis rotundata* Rydb. Round-leafed ground-cherry. Comanche and Clark counties.
86. *Solanum triquetrum* Cav. Angled solanum. Comanche and Clark counties.
87. *Convolvulus incanus* Vahl. Hoary bindweed. Southern Kansas, in dry places; occasional.
88. *Cuscuta coryli* Eng. Hazel dodder. Shawnee county, on hazel; not frequent.
89. *Cuscuta epithymum* Murr. Alfalfa dodder. Sent in from Jefferson and Clay counties; said to be very bad in some fields. Introduced from the east.
90. *Calamintha nuttallii* Benth. Low calamint. Eastern Kansas, on banks; rare.
91. *Mentha citrata* Ehrh. Bergamot mint. Shawnee county, in wet places; introduced.
92. *Monarda scabra* Beck. Wild bergamot. Atchison county.
93. *Pycnanthemum torreyi* Benth. Torrey's sweet basil. Shawnee county, in a roadside near Burnett's mound.
94. *Scutellaria campestris* Britt. Prairie skullcap. Northeastern Kansas, in sandy soils.
95. *Castilleja indivisa* Eng. Narrow-leaf painted-cup. Barber county.
96. *Castilleja minor* Gray. Small-flowered painted-cup. Shawnee and Douglas counties, along the Wakarusa.
97. *Pentstemon haydeni* Wats. Hayden's pentstemon. Northwest Kansas, in moist places; frequent.
98. *Seymeria macrophylla* Nutt. Mullein foxglove. Shawnee county, near Richland, along the Wakarusa.
99. *Monotropa hypopitys* L. Pine-sap. Found in Franklin county by J. W. Bridwell, Baldwin.
100. *Plantago occidentalis* Dec. Western plantain. Shawnee county; occasional in dry prairies.

APETALOUS EXOGENS.

101. *Acnida tamariscina* Wood. Water-hemp. In swampy places; frequent.
102. *Allionia bodini* Morong. Bodin's allionia. Western Kansas; frequent in dry soil.
103. *Amaranthus graecizans* L. Tumble-weed. All over Kansas; very common.
104. *Aristolochia serpentaria* L. Serpentry. Cherokee county.
105. *Asarum reflexum* Bickn. Wild ginger. Eastern Kansas, in river valleys; frequent.

106. *Chenopodium berlandieri* Moq. Berlandier's goosefoot. Barber county; abundant in dry, broken ground.

107. *Chenopodium incanum* (Wats.) n. sp. Annual, erect, $\frac{1}{4}$ dm. high, stout, grooved, much branched, the whole plant white-mealy; leaves thick, $\frac{1}{4}$ cm. long, triangular-hastate, slightly sinuate-dentate or entire; obtuse, short petioled; spikes panicle, compact, with short pedicels; calyx $1\frac{1}{3}$ mm. in breadth, segments obtuse, nearly covering the fruit; seed horizontal, somewhat attached to the pericarp; embryo a complete ring. Norton and adjacent counties; very abundant in neglected fields on high dry prairies.

108. *Chenopodium leptophyllum* Nutt. Narrow-leaved goosefoot. Central and western Kansas; frequent in dry situations.

109. *Chenopodium viride* L. Green goosefoot. Atchison county.

110. *Corispermum villosum* Rydb. Northern Kansas.

111. *Eriogonum alatum* Torr. Winged eriogonum. Sherman county.

112. *Eriogonum flavum* Nutt. Yellow eriogonum. Sherman county.

113. *Eriogonum jamesii* Benth. Wallace and other western counties.

114. *Eurotia lanata* Moq. White sage. Logan county. (H)

115. *Sueda diffusa* Nutt. Spreading blite. Barton to Pratt counties; frequent in saline lands.

116. *Polygonum dumetorum* L. Hedge buckwheat. Atchison and Shawnee counties; occasional.

117. *Polygonum macouni* (Small). Macoun's water-pepper. Perennial, somewhat stout, decumbent or erect, clothed with appressed hairs; leaves lanceolate, obtuse; ocreae cylindric, fringed with long bristles; ocreolae ciliate; calyx white, or whitish. All through Kansas in wet places; rare.

118. *Croton lindheimerianus* Scheele. Lindheimer's croton. Southern Kansas, in dry soil.

119. *Celtis mississippiensis* Bosc. Southern hackberry. Cherokee to Montgomery counties. Sent by Dr. W. S. Newlon.

120. *Quercus texana* Buckley. Texas red oak. Southeast Kansas; frequent. (H)

121. *Salix amygdaloides* Anders. Peach-leaved willow. River and stream banks; common.

122. *Salix gracilis* Anders. Limber twig willow. Eastern Kansas.

123. *Salix prinoides* Pursh. Chestnut willow. Shawnee county; not common.

FLORIFEROUS ENDOGENS.

124. *Lemna minima* Phillipi. Least duckweed. Eastern Kansas.

125. *Lemna trinervis*. Three-nerved duckweed. Cherokee county. (H)

126. *Wolffia papulifera* Thompson. Pointed duckweed. Eastern Kansas, in still waters.

127. *Potamogeton lucens* L. Shining pondweed. Comanche county. (H)

128. *Sagittaria platyphylla* J. G. Smith. Ovate-leaved arrowhead. Cherokee county. (H)

129. *Iris hexagona* Walt. Southern blue flag. Cherokee county. (H)

130. *Lilium canadense* L. Wild yellow lily. Leavenworth and Jefferson counties.

131. *Ornithogalum umbellatum* L. Star of Bethlehem. Douglas county.

132. *Trillium sessile* L. Sessile-flowered trillium. Cherokee county. (H)

133. *Uvularia grandiflora* Smith. Large-flowered bellwort. Cherokee county. (H)

134. *Commelina angustifolia*. Narrow-leaved day-flower. Southwest Kansas; common.

135. *Commelina crispa* Wooton. Western day-flower. Western Kansas; common in gravelly soil.

136. *Tradescantia bracteata* Small. Long-bracted spiderwort. Eastern Kansas, in sandy soil.

137. *Tradescantia occidentalis* (Britton). Western spiderwort. Hamilton to Norton counties; frequent.

138. *Tradescantia reflexa* Raf. Reflexed spiderwort. Shawnee county, on drift hills; frequent.

139. *Juncus robustus* Cov. Stout rush. Southeastern Kansas.

140. *Juncoides campestre* Kuntze. Common wood rush. Cherokee county. (H)

GLUMIFEROUS ENDOGENS.

Cyperaceæ.

141. *Carex bicknellii* Britt. Bicknell's sedge. Eastern Kansas; occasional.

142. *Carex crus-corvi* Shuttlw. Raven's-foot sedge. Wyandotte county. (H)

143. *Carex douglasii* Boott. Douglas's carex. Norton county.

144. *Carex fusca* All. Brown sedge. Cherokee county. (H)

145. *Carex jamesii* Schwein. James's carex. Lower Kaw valley; rare.

146. *Carex monile* Tuck. Necklace sedge. Eastern Kansas; occasional in marshes.

147. *Carex muskingumensis* Schwein. Muskingum sedge. Wyandotte county; rare. (H)

148. *Carex nebraskensis* Dewey. Nebraska sedge. Cheyenne county. (H)

149. *Carex oligocarpa* Schk. Few-fruited sedge. Wyandotte county. (H)

150. *Carex pubescens* Muhl. Pubescent sedge. Wyandotte county. (H)

155. *Carex trisperma* Dewey. Three-seeded sedge. Trego county.

156. *Carex xalapensis* Kth. Mexican carex. Northern Kansas; common.

157. *Cyperus capitatus* (Boeckl.) Headed cyperus. Kingman county. (H)

158. *Cyperus compositus* (Britt.) Compound cyperus. Jackson and Jefferson counties.

159. *Cyperus flavescens* L. Yellow cyperus. Douglas and Johnson counties.

160. *Cyperus hallii* Britt. Hall's cyperus. Southeastern Kansas.

161. *Cyperus ovularis* Torr. Globose cyperus. Southeastern Kansas. (H)

162. *Cyperus pseudovegetus* Steud. Marsh cyperus. Cherokee county. (H)

163. *Cyperus robustior* (Kunth.) Stout cyperus. Cherokee and Clark counties. (H)

164. *Eleocharis atropurpurea* Kth. Purple spike-rush. Norton and Barber counties.

165. *Eleocharis capitata* R. Br. Round-headed spike-rush.

166. *Eleocharis glaucescens* Willd. Smooth spike-rush. All over Kansas; frequent.

167. *Eleocharis olivacea* Torr. Olive spike-rush. Cherokee county. (H)

168. *Fimbristylis vahlii* Link. Vahl's fringed rush. Cherokee county. (H)

169. *Hemicarpha aristulata* (Cov.) Southeastern Kansas; occasional.

170. *Scirpus campestris* Britt. Prairie bulrush. Western Kansas; on wet prairies.

171. *Scirpus cyperinus* Kunth. Wool-grass. Cherokee county. (H)

172. *Scirpus hallii* Gray. Hall's club-rush. Rooks county. (Barth.)

173. *Scirpus lineatus* Mx. Reddish bulrush. Eastern Kansas; frequent.

174. *Scirpus longispicatus* (Britt.) Long-spiked rush. Trego county.

175. *Scirpus nanus* Spreng. Dwarf club-rush. Kansas; in salt marshes.

176. *Scleria pauciflora* Muhl. Small-flowered nut-rush. Southeastern Kansas.

Gramineæ.

177. *Andropogon torreyanus* Steud. Pratt county and southwest; occasional.
178. *Agropyron pseudorepens* Scribn. & Small. Rough wheat-grass. Shawnee county, in river valleys; occasional.
179. *Agropyron spicatum* Scribn. & Small. Western wheat-grass. Eastern Kansas, in bottom land.
180. *Agrostis eliottiana* Schultes. Elliott's bent-grass. Chautauqua county. (H)
181. *Aristida divaricata* H. & B. Spreading awn-grass. Barber county.
182. *Gymnopogon racemosus* Beauv. Broad-leaved gymnopogon. Chautauqua county. (H)
183. *Oplismenus obtusum* (HBK.) Smooth cockspur grass. Reno county and southwest, frequent in wet draws.
184. *Poa arachnifera* Torr. Texas blue-grass. Southern Kansas, on prairies; not common.
185. *Poa wolffii* Scribn. Wolf's spear-grass. Southeast Kansas.
186. *Sporobolus neglectus* Nash. Small rush-grass. Eastern Kansas; frequent.
187. *Syntherisma fimbriata* Vail. Fringed crab-grass. Southern Kansas, in sandy soil.
188. *Triodia elongata* (Buckley). Long-panicled redtop. Southwestern Kansas, on prairies.
189. *Isoetes butleri* Engelm. Butler's quillwort. (H)

FLOWERLESS PLANTS—FUNGI.

HYMENOMYCETES (MUSHROOMS).

190. *Amanita prairicola* Peck. Bare ground in open prairies, Rooks county. (B)
191. *Cryptophallus albiceps* Peck. In a cornfield, Rooks county. (B)
192. *Galera fragilis* Peck. Among short grass in pasture, Rooks county. (B)
193. *Lepiota sublilacea* Peck. Bare ground in pastures, Rooks county. (B)
194. *Psilocybe obscura* Peck. Red leaf-mold in woods, Rooks county. August. (B)
195. *Psilocybe sabulosa* Peck. Sandy soil in pastures, Rooks county. August. (B)

PYRENOMYCETES (BLACK FUNGI).

196. *Amphisphæria separans* E. & E. On cottonwood shingle, Smith county. (B)
197. *Calloria kansensis* E. & E. On rotten wood. (H. F. Roberts.)
198. *Colletotrichum solitarium* E. & B. On leaves of *Solidago radula*, Rooks county. (B)
199. *Cucurbitaria astragali* E. & E. On dead stems of *Astragalus* sp., Rooks county. (B)
200. *Cyathus rufipes* E. & E. On underside of old sods, in plowed field, Rooks county. (B)
201. *Didymosphæria major* E. & E. On decorticated wood of *Rhus glabra*, Rooks county. (B)
202. *Didymosphæria rhoina* E. & E. On decorticated wood of *Rhus glabra*, Rooks county. (B)
203. *Homostegia diplocarpa* E. & E. On *Distichlis maritima*, Rooks county. (B)
204. *Leptosphæria rhoina* E. & E. On decorticated wood of *Rhus glabra*, Rooks county. (B)

205. *Lophidium rude* E. & E. On weather-beaten cottonwood shingles, Smith county. (B)

206. *Lophiosphæra zeicola* E. & E. On old corn-stalks, Rooks county. (B)

207. *Lophiostoma pusulatum* E. & E. On dead shoots of grapevine, Rockport. (B)

208. *Lophiostoma rhopalosporum* E. & E. On dead shoots of grapevine, Rockport. (B)

209. *Lophiotreme fraxini* E. & E. On decorticated sticks of *Fraxinus viridis*, Rooks county. (B)

210. *Peniophora occidentalis* E. & E. On dead leaves of deciduous trees, westward to Colorado. (N. A. F. 2314.)

211. *Pleospora juglandis* E. & E. On dead black-walnut limbs, Rooks county. (B)

212. *Pyrenochaeta graminis* E. & E. On dead leaves of *Chloris verticillata*, Rooks county. September. (B)

213. *Schizothyrella fraxinia* E. & E. On fallen leaves of *Fraxinus viridis*, Rooks county. (B)

214. *Sordaria ostiolata* E. & E. On rabbit's dung, Rooks county. August. (B)

215. *Sphæropsis acerina* E. & E. On dead branches of *Acer dasycarpum*, Topeka. January. (B)

216. *Teichospora infuscans* E. & E. On old cottonwood log, Rooks county. August. (B)

217. *Teichospora populina* E. & E. On decorticated limbs of *Populus monilifera*, Rooks county. (B)

218. *Valsa amorphæ* E. & E. On dead limbs of *Amorpha fruticosa*, Rooks county. (B)

219. *Valsa celtidis* E. & E. On dead limbs of *Celtis occidentalis*, Rooks county. (B)

220. *Valsa macrocarpa* E. & E. On dead bur-oak limbs, Rooks county. (B)

221. *Valsa socialis* E. & E. On dead limbs of *Salix cordata*, Rooks county. (B)

SPHÆROPSIDÆ (DUST FUNGI).

(New species, by Ellis and Bartholomew.)

222. *Phyllosticta monardæ* Ell. & Barth., n. sp.

On living leaves of *Monarda citriodora*, Rooks county, Kansas, June 11, 1898. (No. 2477.)

Spots amphigenous, scattered, suborbicular, minuté, about 1 mm. in diameter, dark purple at first, soon whitened out in the center. Perithecia punctiform, black, few on a spot (2-4). Sporules oblong-elliptical, hyaline, $5-6 \times 1\frac{1}{2}$ micros (micromillimeters).

223. *Phoma canescens* Ell. & Barth., n. sp.

On decorticated cottonwood limbs, Rooks county, Kansas, January 18, 1899. (No. 2536.)

Perithecia scattered, semi-emergent, small, $\frac{1}{4}-\frac{1}{2}$ mm. in diameter, compressed laterally so as to have the appearance of a *Lophiostoma*. Sporules oblong, hyaline, $6-8 \times 2-3$ micros. The host presents a grayish appearance from the thickly scattered perithecia.

224. *Dothiorella ribicola*, E. & B., n. sp.

On dead *Ribes aureum*, Rooks county, Kansas, March 21, 1899. (No. 2562.)

Perithecia small, 100-150 micros. Connate and erumpent in the orbicular or elongated botryoid clusters, 1-2 mm. in diam., loosely bordered by the ruptured

epidermis, white inside, 6-15 in a cluster, united in a more or less perfectly developed dothideoid stroma. Sporules fusoid, 2-4, nucleate, hyaline, $20-24 \times 4\frac{1}{2}-5\frac{1}{2}$ micros. Differs from *D. ribis* (Fekl.) in its smaller, more numerous, erumpent perithecia and smaller, fusoid sporules. *D. dura* (Preuss.) Sacc. has ovoid smoky hyaline sporules, but otherwise must be much like this.

225. *Sphaeropsis juglandis* E. & B., n. sp.

On dead shoots of *Juglans nigra*, Rooks county, Kansas, March 26, 1897. (No. 2383.)

Perithecia thickly scattered, sub-cuticular, small ($\frac{1}{3}$ mm.), globose, raising the epidermis into pustules pierced at the apex by the minute papilliform ostiola. Sporules oblong, elliptical, brown, $15-22 \times 7-10$ micros. Common in many situations.

226. *Haplosporella juglandis* E. & B., n. sp.

On dead shoots of *Juglans nigra*, Rooks county, Kansas, April 22, 1897. (No. 2400.)

Stromata thickly scattered, subglobose, 1 mm. in diameter, surrounded by the free margin of the ruptured epidermis. Perithecia minute, ovate, subcircinate. Sporules oblong-ovate, light brown, $14-20 \times 5-7$ micros.

227. *Haplosporella macluræ* E. & B., n. sp.

On fallen limbs of *Maclura aurantiaca*, Rooks county, Kansas, March 16, 1897. (No. 2380.)

Stromata verruciform, flattened above, $1-1\frac{1}{2}$ mm. diam., covered by the epidermis which finally disappears above, thickly gregarious but hardly confluent. Perithecia ovate, minute, closely packed, 10-20 in a stroma. Ostiola punctiform. Sporules oblong-elliptical, brown, $15-20 \times 6-8$ micros.

This is a very different thing from *Sphaeropsis macluræ* Cke., which sparingly occurs on the same specimens, with gregarious, small, subepidermal perithecia which are not even confluent and by no means collected in a stroma, having, besides, much larger sporules.

228. *Haplosporella minor*, E. & B., n. sp.

On dead limbs of *Maclura aurantiaca*, Rooks county, Kansas, March 10, 1899. (No. 2552.)

Stromata thinly scattered, prominently erumpent, black, imperfectly developed, multi-peritheciate, seated on the inner bark, scarcely penetrating to the wood. Sporules short-elliptical, smoky hyaline to pale brown, $5-7 \times 3-4$ micros.

Very distinct from *H. macluræ* E. & B. on the same host.

229. *Haplosporella dothideoides*, E. & B., n. sp.

On dead shoots of *Ailanthus glandulosa*, Rooks county, Kansas, March 21, 1899. (No. 2565.)

Stroma seated in the inner bark and erumpent above through the ruptured epidermis, orbicular or elliptical, $1-1\frac{1}{2}$ mm. in diam., of soft, waxy-carnose texture, dark brown, hemispheric or depressed-conical; perithecia hardly more than dothideaceous, ascigerous cells of irregular shape, crowded in the stroma. Sporules oblong or oblong-elliptical, brown, $12-16 \times 4-7$ micros.

Apparently not well developed and so not certainly distinct from *H. ailanthi*, E. & E. (Jour. Mycol. V, p. 147), but the smaller sporules and distinct stroma seem to indicate specific difference.

230. *Diplodia compressa* E. & B., n. sp.

On decorticated, weather-beaten limbs of *Maclura aurantiaca*, Rooks county, Kansas, January 9, 1899. (No. 2533.)

Perithecia scattered, compressed, about $\frac{1}{2}$ mm. long, partly covered by the loosened fibers of the wood. Sporules oblong-elliptical, $10-14 \times 5-6$ micros. Not constricted. Differs from *D. microsporella* Sacc., especially in its compressed perithecia.

231. *Hendersonia lophiostomoides* E. & B., n. sp.

On decorticated, weather-beaten limbs of *Maclura aurantiaca*, Rooks county, Kansas, March 31, 1897. (No. 2352.)

Perithecia scattered, erumpent-superficial, 400–500 micros in diam., subglobose, partly covered by the loosened fibers of the wood. Ostiolum mostly compressed, as in *Lophiostoma*. Sporules oblong-elliptical, brown, 3-septate but scarcely constricted, rounded and obtuse at the ends, $12-20 \times 6-8$ micros. At first hyaline and uniseptate.

232. *Stagonospora cytisporoides* E. & B., n. sp.

On dead branches of *Ampelpha fruticosa*, Rooks county, Kansas, February 20, 1897. (No. 2372.)

Perithecia scattered, subcuticular, about $\frac{1}{2}$ mm in diameter, raising the epidermis into pustules pierced by the small white disc with a single perforation. Sporules oblong-cylindrical, hyaline, 3–4 nucleate, often becoming 2–3-septate, $12-15 \times 3-3\frac{1}{2}$ micros.

233. *Camarosporium juglandis* E. & B., n. sp.

On dead limbs of *Juglans nigra*, Rooks county, Kansas, January 9, 1899. (No. 2531.)

Perithecia thickly scattered and sometimes partly connected by a slight stromatic crust, small, mostly less than $\frac{1}{2}$ mm. in diameter, globose, covered by the epidermis, which is raised into pustules perforated at the apex. Sporules variable in size and shape, from subglobose, 8–12 micros in diameter, to ovate or elliptical, 12–25 micros in diameter, 3-septate. The larger ones constricted at the septa and submuriform.

234. *Cladotrichum brassicæ* E. & B., n. sp.

On old cabbage leaves (*Brassica oleracea*), Rooks county, Kansas, April 22, 1897. (No. 2399.)

Forming dense, subolivaceous, subpulvinate tufts, 1 mm. to $\frac{1}{2}$ cm. across, and thickly scattered over both sides of the leaf. Fertile hyphæ erect, sparingly branched and sparingly septate, swollen at intervals, yellowish-brown, $110-150 \times 6-7$ micros. Conidia oblong-elliptical, brown, $12-20 \times 10-12$ micros, 1-(exceptionally 3-) septate.

HYPHOMYCETES (MILDEWS).

235. *Helminthosporium tomato* E. & B. On decaying fruit of tomato; Rooks county. (B)